#### DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES Office of Structural Materials Quality Assurance and Source Inspection

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Contract #: 04-0120F4

Cty: SF/ALA Rte: 80 PM: 13.2/13.9

File #: 1.28

## WELDING INSPECTION REPORT

Resident Engineer: Casey, William **Report No:** WIR-027346 Address: 333 Burma Road **Date Inspected:** 22-Mar-2012

City: Oakland, CA 94607

**Project Name:** SAS Superstructure **OSM Arrival Time:** 700 **OSM Departure Time:** 1730 Prime Contractor: American Bridge/Fluor Enterprises, a JV

Contractor: American Bridge/Fluor Enterprises, a JV **Location:** Job Site

**CWI Name: CWI Present:** Yes No As noted below **Inspected CWI report:** Yes N/A **Rod Oven in Use:** Yes No No N/A N/A **Electrode to specification:** Yes No Weld Procedures Followed: Yes No N/A **Qualified Welders:** Yes No N/A **Verified Joint Fit-up:** Yes No N/A N/A Yes No N/A **Approved Drawings:** Yes No **Approved WPS:** Yes No N/A **Delayed / Cancelled:** 

**Bridge No:** 34-0006 **Component: SAS OBG** 

### **Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

9E PP84.5 E5-DAH (Interior)

This QA Inspector randomly observed Quality Control (QC) Inspector Jesse Cayabyab perform a Magnetic Particle (MT) inspection of the weld root side of the joint (back-gouge) on the Deck Access Hole (DAH) located at 9E PP84.5 E5 on the interior of the OBG. It was noted that Mr. Cayabyab found no rejectable indications and approved the joint for welding.

This QA Inspector made random observations of Shielded Metal Arc Welding (SMAW) in the 3G vertical position performed by ABF welder Salvador Sandoval (ID 2202) on the Transverse Stiffener (TS) of the DAH located at 9E PP84.5 E5 on the interior of the OBG. The welder was observed utilizing 3.2mm E7018-H4R electrodes obtained from a remote baking oven in the general vicinity. QC Inspector Steve Jensen was present to monitor the welding and the parameters to ensure compliance with ABF-WPS-D1.5-1010-1 and measured the amperage as 125. The welder was observed cleaning the work between passes utilizing a small disc grinder, brushes and compressed air with QC measuring the inter-pass temperatures prior to consecutive passes. This QA Inspector made subsequent observations throughout the shift and noted that the work is in progress and appeared to be in general compliance with the contract specifications.

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9W PP84.5 W2-DAH (Interior)

This QA Inspector randomly observed ABF Quality Control Inspector Jesse Cayabyab performing Magnetic Particle (MT) inspection and Ultrasonic Testing (UT) inspection on the DAH Longitudinal Stiffener East (LS-E), the Longitudinal Stiffener West (LS-W) and the TS at 9W PP84.5 W2 on the interior of the OBG. This QA Inspector observed that no rejectable MT or UT indications were found. The weld areas scanned were 30mm thick.

This QA Inspector performed a MT Inspection on the DAH LS-E, LS-W and the TS at 9W PP84.5 W2 on the interior of the OBG. This QA Inspector performed the yoke method in conformance with ASTM E 709 and the standard of acceptance with D1.5 section 6.26. This QA Inspector noted that no rejectable indications were found at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work at this location appeared to be in general conformance with the contract specifications.

This QA Inspector performed a UT inspection on approximately 10% of the welds on the DAH LS-E, LS-W and the TS at 9W PP84.5 W2 on the interior of the OBG. These welds were previously accepted by QC Ultrasonic technicians in accordance with AWS D1.5-2002, section 6, table 6.3. This QA observed no rejectable indications at the time of testing. This QA generated a TL-6027 UT report on this date. The completed work observed at this location appeared to be in compliance with the contract specifications.

8W PP70.5 W2-DAH (Interior)

This QA Inspector made random observations of SMAW on the DAH located at 8W PP70.5 W2 on the interior of the OBG. ABF welder Eric Sparks (ID 3040) was observed welding in the 4G overhead position utilizing 3.2mm E7018-H4R electrodes that were obtained from a remote baking oven verified by this QA Inspector. QC Inspector Steve Jensen was present to monitor the welding and the parameters to ensure compliance with ABF-WPS-D1.5-1010-Revision 1. The welder was observed cleaning the work between passes and employed a small disc grinder to blend the start/stop edges for a smooth transition, as the QC Inspector measured the inter-pass temperatures. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work at this location is in progress and appeared to be in general conformance with the contract specifications.

12E PP109.5 E5-DAH (Exterior)

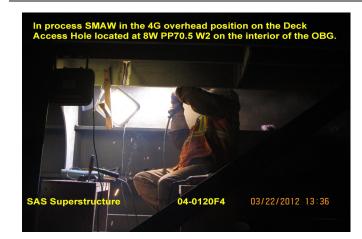
This QA Inspector made random observations of ABF welding personnel performing the fit-up operations of the DAH located at 12E PP109.5 E5 on the exterior of the OBG. The welders tacked alignment tabs to the plate for placement to adjust and form the proper joint configuration. QC Inspector Jesse Cayabyab measured the root gap and joint dimensions which fall within ABF-WPS-D1.5-1040-C. It was noted that no welding took place at this location on this date.

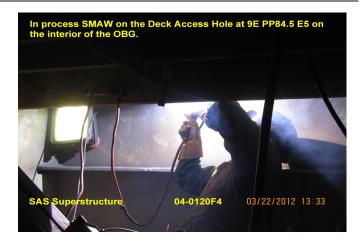
### **Summary of Conversations:**

As noted above.

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## **Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

**Inspected By:** Frey,Doug Quality Assurance Inspector **Reviewed By:** Levell,Bill **QA** Reviewer